Yifeng Ding

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Research Interests

My research interest lies in Large Language Models (LLMs) for Software Engineering. Currently, I focus on using LLMs to improve automated debugging techniques, including Automated Program Repair (APR) and Fault Localization (FL). One of my recent LLM4APR works, FitRepair [2], has been published in ASE'23.

My ongoing works include using *self-instruct* and *parameter-efficient fine-tuning* to improve LLM's **instruction-following** ability to perform automated debugging, and augmenting LLMs with *information retrieval* techniques for **project-level debugging** tasks.

Education

Since 2022 **University of Illinois at Urbana-Champaign (UIUC)**,
Ph.D. student in Computer Science,
Advisor: Prof. Lingming Zhang

2018–2022 **Tsinghua University**,
B.S. in Software Engineering,
Double Major: B.S. in Business Administration

Publications

[1] Yuxiang Wei, Zhe Wang, Jiawei Liu, **Yifeng Ding**, and Lingming Zhang. "Magicoder: Source Code Is All You Need". In: *Arxiv*. [preprint].

[2] Chunqiu Steven Xia, **Yifeng Ding**, and Lingming Zhang. "The Plastic Surgery Hypothesis in the Era of Large Language Models". In: *38th IEEE/ACM International Conference on Automated Software Engineering (**ASE 2023**)*. [paper].

[3] Quan Zhang, Yongqiang Tian, **Yifeng Ding**, Shanshan Li, Chengnian Sun, Yu Jiang, and Jiaguang Sun. "CoopHance: Cooperative Enhancement for Robustness of Deep Learning Systems". In: *32nd ACM SIGSOFT International Symposium on Software Testing and Analysis (**ISSTA 2023**)*. [paper].

[4] Quan Zhang, **Yifeng Ding**, Yongqiang Tian, Jianmin Guo, Min Yuan, and Yu Jiang. "AdvDoor: Adversarial Backdoor Attack of Deep Learning System". In: *30th ACM SIGSOFT International Symposium on Software Testing and Analysis (**ISSTA 2021**)*. [paper].

Academic Service

Organizing Committee — The First International Workshop on Large Language Models for Code (LLM4Code 2024), co-located with ICSE 2024

Talk

[1] Uber Programming Systems Team: Equipping Large Language Models with Domain-Specific Knowledge for Automated Program Repair

Honors & Awards

2021 **Research Excellence Scholarship**, Tsinghua University
2019 **Academic Excellence Scholarship**, Tsinghua University